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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/273,436	03/22/1999	JYRI HUOPANIEMI		7133

7590 05/18/2005

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EXAMINER

MICHALSKI, JUSTIN I

ART UNIT PAPER NUMBER

2644

DATE MAILED: 05/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/273,436	HUOPANIEMI ET AL.	
	Examiner	Art Unit	
	Justin Michalski	2644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 9-14 is/are rejected.
- 7) ☒ Claim(s) 4-8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>10/14/99, 7/12/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The claims are objected to because of the following informalities: Each claim must be the object of a sentence starting with "I (or we) claim," "The invention claimed is" (or the equivalent). See MPEP 608.01(m) Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 13 and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 13 recites the limitation "the transmitting device" in line 2 and "the receiving device" in lines 4 and 5. There is insufficient antecedent basis for these limitations in the claim.

Claim 14 recites the limitation "the transmitting device" in line 2 and "the receiving device" in line 5. There is insufficient antecedent basis for these limitations in the claim.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-3, 9, 11, and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Kendall et al. ("Kendall") (US Patent 4,731,848).

Regarding Claim 1, Kendall discloses a method for processing an acoustic virtual environment in an electronic device (Fig. 2a), said acoustic virtual environment comprising at least one sound source (12), the method comprising the steps of establishing a direction dependent filtering arrangement and a set of parameters (20, 22, and 24); associating said direction dependent filtering arrangement with at least one sound source (12); and converting a first signal representing the sound emitted by said at least one sound source (12) into a second signal (output signal 1) representing a directed sound in said filtering arrangement in a manner determined by said set of parameters (20, 22, and 24).

Regarding Claim 2, Kendall further discloses defining a certain reference direction (directionalizer 22) and a set of directions differing from it for said at least one sound source (directionalizers 24), and associating a filter (directionalizers 24) with each direction differing from the determined reference direction so that the effect of each filter on the signal representing the sound emitted by said at least one sound source depends on a set of parameters relating to the filter.

Regarding Claim 3, said parameters relating to each filter are amplification factors in order to determine the relative amplification of the sound directed in different

directions from the sound source (It is inherent that filters in directionalizers 22 and 24 will contain amplification factors).

Regarding Claim 9, Kendall further discloses the sound source is a primary sound source.

Regarding Claim 11, Kendall discloses a system for processing an acoustic virtual environment (Fig. 2a) comprising at least one sound source (12), said system comprising means for creating a filter bank comprising parameterized filters in order to model how the sound is directed from the sound sources belonging to the acoustic virtual environment (20, 22, and 24).

Regarding Claim 12, Kendall further discloses a transmitting device (outputs 1 through N) and a receiving device (12 and 20) and means for realizing an electrical communication between the transmitting device and the receiving device (Fig. 2a).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kendall as applied to claim 1 above in view of Asayama (EP 735 796). Kendall discloses a method as stated apropos of claim 1 but does not disclose the source is a reflection.

Asayama discloses also discloses a method for reproducing a virtual space sound including a reflective sound source to reproduce a virtual sound source in a real environment (Page 10, lines 44-49). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a reflective sound source to accurately reproduce a virtual sound as taught by Asayama.

Allowable Subject Matter

6. Claims 13 and 14 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

7. Claims 4-8 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin Michalski whose telephone number is (571)272-7524. The examiner can normally be reached on M-F 7-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on (571)272-7564. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2644

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JIM



SINH TRAN
SUPERVISORY PATENT EXAMINER